### BSE with Individualized Emphasis 2023/24

#### Year 1

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA1160/1161</td>
<td>MA2160</td>
</tr>
<tr>
<td>Calculus I</td>
<td>Calculus II</td>
</tr>
<tr>
<td>F, S, Su</td>
<td>F, S, Su</td>
</tr>
</tbody>
</table>

**Note:** C or better in MA1160/61 or registered for PH2110 is required to take PH2100

**Co-cur Unit**

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<tr>
<th>MA1160/1161</th>
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#### Year 2

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<tbody>
<tr>
<td>MA3160</td>
<td>MA2320</td>
</tr>
<tr>
<td>Multivariable Calculus</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>F, S, Su</td>
<td>F, S, Su</td>
</tr>
</tbody>
</table>

**Note:**

- **MA1160/61** (C) = prerequisite
- **MA1031 (C), MA1032 (C), or MA1160/61 (C) and ENG1002 (C) or test score**

**Co-cur Unit**

<table>
<thead>
<tr>
<th>MA3160</th>
<th>MA2320</th>
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<td>Multivariable Calculus</td>
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#### Year 3

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<th>Spring</th>
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<tbody>
<tr>
<td>MA3710</td>
<td>MA3160</td>
</tr>
<tr>
<td>Statistics</td>
<td>Multivariable Calculus</td>
</tr>
<tr>
<td>F, S, Su</td>
<td>F, S, Su</td>
</tr>
</tbody>
</table>

**Note:**

- **MA3160** = prerequisite
- **MA3160 or MA1160** (C) and ENG1002 (C) or test score

**Co-cur Unit**

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<thead>
<tr>
<th>MA3710</th>
<th>MA3160</th>
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<td>Statistics</td>
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#### Year 4

<table>
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<tr>
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<th>Spring</th>
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<tbody>
<tr>
<td>MA4905</td>
<td>MA3830</td>
</tr>
<tr>
<td>SR Design</td>
<td>Engineering Professionalism</td>
</tr>
<tr>
<td>F, S, Su</td>
<td>F, S, Su</td>
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**Note:**

- **MA1160** or MA1161 = prerequisite
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**Co-cur Unit**

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**Key:**

- **XX#### (cr)** = prerequisite
- **XX#### (C) =** prerequisite that can be taken concurrently
- **F =** Fall
- **S =** Spring
- **Su =** Summer

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**Updated September 2023**

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes. See back of academic plan for more information on requirements for elective courses.

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**XX#### (cr)**

- Prerequisite
- **XX#### (C) =** prerequisite that can be taken concurrently

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**NAME**

**Semester Offered**

- **F =** Fall
- **S =** Spring
- **Su =** Summer

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**XX#### =** Prerequisite

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**Not Fresh or Soph**

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**Jr or Sr Standing**

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**Any List**

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**HASS REQUIREMENTS**

- 6 CREDITS MUST BE UPPER LEVEL 3000-4999
- **MA1031, MA1032, or MA1160/61**
- **ENG1002** or test score

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**Any List**

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**HASS REQUIREMENTS**

- 6 CREDITS MUST BE UPPER LEVEL 3000-4999
- **MA1031 & MA1025** are prerequisites for all upper level HASS courses
- HASS courses may be taken in any order

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**UN1015 or UN1025 MAY BE TAKEN IN EITHER ORDER IN THE FIRST YEAR.**

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**MA1160** or **MA1161** (C) and **ENG1002** (C) or test score
BSE Individualized Emphasis 2023-24  
(minimum of 125 credits)  
*Academic questions: E-mail efadvise@mtu.edu*

1. **Senior Design Prerequisite courses:**  
ENG1101, ENG1102, ENG2120, CEE3200, ENG3830 (C), EE3010,  
Eng. Core Elective, and Engineering Design Implementation.

2. **General Education Requirements (24 credits + 3 PE units):**

   **I. Core Courses (12 credits)**
   - ___ UN1015 Composition
   - ___ UN1025 Global Issues or 3000+ Modern Language
   - ___ Critical/Creative Think List
   - ___ Social Resp./Ethical Reason List

   **II. HASS Courses Requirements (12 credits)**  
(www.admin.mtu.edu/em/documents/HASS Distribution List.pdf)
   - 6 credits upper level (3000-4999)
   - 3 credits from each listed below
     - ___ Communication/Composition
     - ___ Humanities/Fine Arts List (HU/FA)**
     - ___ Social & Behavioral Science List (EC/PSY/SS)**
     - ___ 3 credits from any list**

   * EC3400 is required by the degree, and may NOT be counted as a Social Resp./Ethical Reason or HASS course.

3. **Engineering Design Implementation (select 3 credits):**
   - ___ CEE3332 ___ GE3880 ___ MEEM3600

4. **Engineering Core Elective (select 3 credits):**
   - ___ CEE3101 ___ CS1121 ___ ENG2505 ___ GE2300 ___ MSE2100*

5. **Quality Control Elective (select 3 credits):**
   - ___ MET4510 ___ MEEM4650 ___ OSM4650

6. **Math/Science Elective (select 4-5 credits)*:**
   - ___ 

7. **Technical Electives (15-16 credits)*:**
   - Select 15 to 16 engineering credits at the 3000+ level in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals and Academic Dean for the College of Engineering. 12 credits must be 4000+ level.

8. **Directed Electives (9 credits):**
   - Select 9 credits in a coherent plan of study such as partial fulfillment of a university approved minor, or a self-defined program with the advice of the BSE Academic Advisor.

9. **Individualized Electives (11 credits):**
   - Select 11 credits in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean of the College of Engineering.

* If MSE2100 selected, then 4 credit Math/Science Elective and 16 credits Technical Electives needed.